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ARBORIST REPORT

PROPOSED RESIDENTIAL DEVELOPMENT
109 GARDEN DRIVE
OAKVILLE, ONTARIO
L6K 0H7

PREPARED FOR:
PLAZA CORP
10 WANLESS AVENUE, SUITE 201
TORONTO, ONTARIO
M6N 1V6

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SBK PROJECT NO:
24-6010

July 3rd, 2024

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Full size copy of V100 Tree Inventory and Preservation Plan Accompanies the Report.

ARBORIST REPORT
Plazacorp, 109 Garden Drive, Oakville

Introduction

Strybos Barron King Ltd. was retained by Plazacorp to prepare an Arborist Report in accordance with Town of Oakville Tree Bylaw requirements for the purposes of obtaining a building permit. The proposal will see the construction of 48-unit, residential town home development consisting of 4 blocks.

Site Context

The subject site (109 Graden Drive) is located on the northeast corner of Lakeshore Road West and Garden Drive, abutting existing Residential properties to the north, east and west. The subject site is currently a vacant lot with a chain-link fence security fence along the perimeter of the property. Several, mature and naturalized trees occur within the property as well as within the municipal right of way at the southwest corner.

Plans Utilized

A Site Plan prepared by Richard Wengle Architect Inc., a Grading & Servicing Plan prepared by Skira & Associates, showing existing tree locations and site features, were used as reference to determine the location of existing in relation to the proposed construction constraints associated with the proposed Site Plan.

Tree Inventory *(refer to tables below)*

Trees were identified both within and immediately adjacent to the subject property. The trees are described in terms of species and diameter at breast height (DBH – measured at 1.4m from grade). They have been assessed in terms of their general health from poor to good; **GOOD** – trees in good overall health and condition with desirable structure, **FAIR** – trees in moderate health and condition with less desirable structure, and **POOR** – trees displaying prominent health issues such as decay and disease and/or poor form and structure. (Refer to *V100 – Tree Inventory and Preservation Plan* for locations of and information pertaining to specific trees)

Tree Inventory Table Descriptions *(See Existing Tree Inventory on Page 2)*

Tree No.	This number refers to inventory number assigned to the tree on the plan.
Tree Species	The botanical and common names are provided for each tree.
Diameter (cm)	This refers to diameter (in centimetres) at breast height and is measured at 1.4m above the ground for each tree.
Crown Dia. (m)	This refers to the diameter (in Meters) of the canopy of the tree and indicates the drip zone.
Health G/F/P	The general assessed health of the tree.
Structure	This is an assessment of the trees overall form.
Comments	A general description of each tree's condition and/or pertinent characteristics is provided.
Owner	This indicates location of tree; subject site, neighbor, city
Action	This indicated if the tree is persevered or removed.
Tree Categories	Refers to the Category allocated for Public, Private, and Exempt trees within the Oakville tree bylaw.
Min. TPZ	Minimum recommended tree protection zones.

Tree Inventory List

EXISTING TREE INVENTORY

KEY	SPECIES		DBH	CROWN	HEALTH	STRUCTURE	COMMENTS	OWNERSHIP	PRESERVATION	TREE CATEGORY	MIN. TPZ	KEY
	Common Name	Botanical Name	(cm)	(metres)	G/F/P				DIRECTION		(m)	
190	Crimson King Maple	Acer platanoides	36	10	Good	Broad	Branching to grade, 2x4 nailed to trunk at 3m.ht.	Private	Remove	1	3.0	190
191	White Spruce	Picea glauca	30	8	Poor	Irregular	Elevated crown, poor pruning, dieback in lower branches, declining	Private	Preserve	1	2.4	191
192	American Elm	Ulmus americana	55	14	Fair	Double Leader	Stem union at 5m.ht., minor deadwood, broken branches, crown overhanging adjacent property	Private	Preserve	1	3.6	192
193	White Mulberry	Morus alba	39,40	12	Poor-Fair	Multi-Stem	Stem union at 1m.ht., vine entangled, minor epicormic growth, crowded branching, included bark	Private	Remove	1	3.0	193
194	Colorado Spruce	Picea pungens	40	6	Fair	Pyramidal	Elevated crown, crowded by adjacent tree	Private	Remove	1	3.0	194
195	Norway Maple	Acer platanoides	102	20	Fair-Good	Broad	Multi leader, included bark, mature tree, minor deadwood, crowded by adjacent tree	Private	Remove	1	10.2	195
196	Hedge Cedar	Thuja occidentalis	15-24	Varies	Fair-Good	Hedge	10 stems, minor deadwood, crowded by adjacent	Private	Preserve	1	2.4	196
197	Norway Maple	Acer platanoides	22	4	Fair	One-Sided	Crowded by adjacent tree, leaning	Private	Remove	1	2.4	197
198	Malus Species	Malus spp.	17,24	8	Fair	Multi-Stem	2 stems, epicormic growth, crowded branching, leaning, branching to grade	Private	Remove	1	2.4	198
199	White Mulberry	Morus alba	30	8	Poor	Cut Leader	90% dead, major deadwood, pruned leader	Private	Remove	1	2.4	199
200	White Mulberry	Morus alba	41	8	Poor	Cut Leader	90% dead, major deadwood, pruned leader	Private	Remove	1	3.0	200
201	Black Walnut	Juglans nigra	52	12	Fair-Good	High Crown	Crowded by adjacent tree, one-sided, minor deadwood	Private	Remove	1	3.6	201
202	Black Walnut	Juglans nigra	53	12	Fair-Good	High Crown	Crowded by adjacent tree, one-sided, minor deadwood	Private	Remove	1	3.6	202
203	Magnolia	Magnolia Stellata	25,29	10	DEAD	Multi-Stem	2 stems	Private	Remove	1	2.4	203
204	Black Locust	Robinia pseudoacacia	68	12	Fair-Good	Leaning	Double leader, union at 1m.ht, broken branches, minor deadwood, crowded by adjacent tree, broken branches	Private	Remove	1	4.2	204
205	Mulberry	Morus alba	19,31,32	12	Fair	One-Sided	Multi leader, 3 stems, crowded by adjacent tree, leaning, minor deadwood, crowded branching	Private	Remove	1	3.0	205
206	Juniper	Juniperus	57	12	Fair	One-Sided	Crowded by adjacent, minor deadwood, included bark	Private	Remove	1	3.6	206
207	Austrian Pine	Pinus nigra	26	10	Poor-Fair	One-Sided	Crowded by adjacent, elevated crown, broken branches	Private	Remove	1	2.4	207
208	Austrian Pine	Pinus nigra	32	10	Poor-Fair	One-Sided	Crowded by adjacent, elevated crown, broken branches	Private	Remove	1	3.0	208
209	White Mulberry	Morus alba	26	8	Poor-Fair	Leaning	Crowded by adjacent, epicormic growth, branching to grade	Private	Remove	1	2.4	209
210	Juniper	Juniperus	22	8	Poor-Fair	Double Leader	Crowded by adjacent, union at 3m.ht., broken branches	Private	Remove	1	2.4	210
211	Manitoba Maple	Acer negundo	15	8	Poor	Leaning	Crowded by adjacent, epicormic growth, adjacent to sidewalk	Private	Remove	1	2.4	211
212	White Mulberry	Morus alba	18,21	10	Poor-Fair	Multi-Stem	2 stems, crowded by adjacent tree, union at base	Private	Remove	1	2.4	212
213	Black Locust	Robinia pseudoacacia	17,23,27	14	Fair	Multi-Stem	3 stems, crowded by adjacent tree, leaning, union at base, one-sided, canopy overhanging Garden Drive	Public	Remove	4	2.4	213
214	Green Ash	Fraxinus pennsylvanica	29	12	Fair-Good	High Crown	Elevated crown, epicormic growth, minor deadwood	Public	Remove	4	2.4	214
215	Black Locust	Robinia pseudoacacia	49	12	Fair	Double Leader	Crowded by adjacent tree, leaning, one-sided, canopy overhanging Garden Drive	Public	Remove	4	3.0	215
216	Siberian Elm	Ulmus pumila	28	8	Fair	Multi-Leader	Crowded branching, tree base and root covered with asphalt, poor pruning	Public	Remove	4	2.4	216
217	Black Locust	Robinia pseudoacacia	58,69	12	Fair	Multi-Stem	2 stems, crowded by adjacent tree, exposed roots, union at base, broken branches, minor deadwood	Private	Remove	1	3.6	217
218	Black Locust	Robinia pseudoacacia	58,60	12	Fair	Multi-Stem	2 stems, crowded by adjacent tree, exposed roots, union at base, minor deadwood, girdling roots, fruiting bodies present	Private	Remove	1	3.6	218
219	Colorado Spruce	Picea pungens	51	10	Fair	Pyramidal	Crowded by adjacent tree, minor deadwood, dieback in lower branches, poor pruning	Private	Remove	1	3.6	219
220	White Cedar	Thuja occidentalis	<10	varies	Fair	Hedge	15 stems, located on neighbouring property, adjacent to precast wall with wood screen	Private	Preserve	2	1.8	220

Observations

The trees inventoried within and immediately adjacent to the subject property are primarily composed of a mix of naturalized, mature trees. Most of the trees occur along the south side of the site with several individual trees within the central area of the property. A cluster of these trees is situated within the municipal right of way at the southwest corner of the property. An exiting cedar hedge occurs along the east property limit. Several, immature cedars were recently planted behind one of the adjacent residential developments east of the subject property. The trees inventoried are mainly composed of Crimson King Maple, White Spruce, American Elm, White Mulberry, Colorado Spruce, Norway Maple, Malus Species, Black Walnut, Juniper, Austrian Pine, Manitoba Maple, Green Ash, Siberian Elm, and White Cedar. With the exception of a small number of dead or declining trees, most trees are in generally fair to good overall health and condition.

Tree Removals

In determining the tree preservation recommendations for the site, the criteria noted below were considered:

- Overall tree health, form, size, species, and predicated longevity.
- Anticipated impact from the construction of the new building and the expansion of the SWM Pond at the front of the property along with associated site servicing and grading.

Each tree was assigned a minimum Tree Preservation Zone (TPZ) as per standard requirements used by municipal by-laws *(Refer to Table1-Tree Protection Zones).*

Table 1 - Tree Protection Zones

Trunk Diameter (DBH)	***Minimum Protection Zone***
<10 cm	1.8m
10-30 cm	2.4 m
31-50 cm	3.0 m
51-60 cm	3.6 m
61-70 cm	4.2 m
71-80 cm	4.8 m
81-90 cm	5.4 m
91-100 cm	6.0 m
< 100 cm	6cm per 1cm DBH

Trees are recommended for preservation or removal based on proximity of the TPZ to the limit of construction, in conjunction with the overall tree health, size and anticipated ability to withstand root or crown impacts.

Private Tree By-Law

Table 2 – Tree Categories

TREE CATEGORIES	
1	Trees with diameters of 15cm or more, situated on private property, on the subject site.
2	Trees with diameters of 15cm or more, situated on private property, within 6m of the subject site.
3	Trees of all diameters situated on Town owned Parkland within 6m of the subject site.
4	Trees of all diameters situated within the City road allowance adjacent to the subject site.
Exempt	Trees that are less than 15cm diameter and located on private property.

The Private Tree Protection By-Law 2017-038 as amended regulates all trees up until final Site Plan approval. During the Site Plan process, trees shall not be removed as they are part of the formal submission(s). Once final Site Plan approval has been granted, the Private Tree Protection Bylaw is superseded by conditions that are set out in the approved Site Plan Agreement; refer to section 5(f) of the bylaw for details. This means that once Site Plan approval is granted, the trees to be removed are not subject to the private tree bylaw procedure.

Table 3 – Private Tree Removals subject to Private Tree Bylaw *(Refer to The Tree Inventory List for specific details)*

KEY	SPECIES		DBH	PRESERVATION	TREE CATEGORY	COMPENSATION
	Common Name	Botanical Name	centimetres	DIRECTION		(metres)
190	Crimson King Maple	Acer platanoides	36	Remove	1	4
191	White Spruce	Picea glauca	30	Remove	1	3
192	American Elm	Ulmus americana	55	Remove	1	6
193	White Mulberry	Morus alba	39,40	Remove	1	4
194	Colorado Spruce	Picea pungens	40	Remove	1	4
195	Norway Maple	Acer platanoides	102	Remove	1	10
197	Norway Maple	Acer platanoides	22	Remove	1	2
198	Malus Species	Malus spp.	17,24	Remove	1	2
199	White Mulberry	Morus alba	30	Remove	1	3
200	White Mulberry	Morus alba	41	Remove	1	4
201	Black Walnut	Juglans nigra	52	Remove	1	5
202	Black Walnut	Juglans nigra	53	Remove	1	5
204	Black Locust	Robinia pseudoacacia	68	Remove	1	7
205	Mulberry	Morus alba	19,31,32	Remove	1	3
206	Juniper	Juniperus	57	Remove	1	6
207	Austrian Pine	Pinus nigra	26	Remove	1	3
208	Austrian Pine	Pinus nigra	32	Remove	1	3
209	White Mulberry	Morus alba	26	Remove	1	3
210	Juniper	Juniperus	22	Remove	1	2
211	Manitoba Maple	Acer negundo	15	Remove	1	2
212	White Mulberry	Morus alba	18,21	Remove	1	2
217	Black Locust	Robinia pseudoacacia	58,69	Remove	1	7
218	Black Locust	Robinia pseudoacacia	58,60	Remove	1	6
219	Colorado Spruce	Picea pungens	51	Remove	1	5
				COMPENSATION TOTAL		101

Total of twenty-four (24) Bylaw Trees to be removed

The Trees listed above require removal to facilitate the proposed townhouse development.

Tree Replacements

The Town bylaw states that planting of replacement trees is required, that replacement tree(s) are to be:

- located on the same lot in a location and species to the satisfaction of the designates official.
- The minimum tree replacement size is a thirty (30) millimeter caliper deciduous tree, or a one hundred and fifty (150) cm height coniferous tree in a five-gallon container or balled and bur lapped or in a wire basket. A security deposit of $300.00 per replacement tree is held until replacement planting has been completed and accepted by a final inspection.
- Where replacement trees are not physically possible to properly grow on the site, the replacement tree(s) be located at another suitable location.
- If all trees are not able to be planted on site, payment for each tree not replanted can be made into the Towns Replacement Planting fund.

The following is the required Tree Replacement Rates for the Private tree Removal Permit.

Table 4 – Tree Replacement Rates

TREE REPLACEMENT AS THE CONDITION OF PRIVATE TREE REMOVAL PERMIT	
Diameter at Breast Height (DBH) in cm	**Number of replacement trees**
First tree 15-24	1
15-24	2
25-34	3
35-44	4
45-54	5
55-64	6
65-74	7
75-84	8
85-94	9
95-104	10
105-144	11
>115	12

Based on the above table, one hundred and two (101) compensation trees are required.

Tree Preservation and Construction Mitigation Recommendations

The following tree protection measures are recommended to be undertaken by the owner to successfully preserve the trees noted on the Tree Preservation Plans. The consulting arborist (Strybos Barron King) is to be on site for tree preservation.

For grouping 196, the storm sewer is to be installed using augering equipment to avoid damage to existing trees.

1. Upon layout and installation of protective hoarding
2. Periodically during demolition to ensure that hoarding and root protection remains in place and no damage occurs to trees to be preserved
3. Upon fine grading of site or other landscape works
4. All servicing works near grouping 196 is to be completed under review of consulting arborist.

Pre-Construction

Tree Protection Hoarding

- Town approved tree protection hoarding is to be installed as shown on the approved plans. This hoarding shall be maintained for the duration of site construction. It shall not be removed until authorized by the Consulting Arborist and the Town. The hoarding shall be constructed at the location as noted on the Tree Preservation Plan.
- As noted on the tree preservation plan, tree protection hoarding shall be installed. The tree protection hoarding is to be constructed with a solid frame clad with plywood or approved equivalent. (Refer to the details on V100) and Appendix C below. Orange Snow fence with framing is to be installed in all municipal right of ways as not to obstruct the view.
- Once installed, the limits of protection hoarding shall be approved in the field by the Consulting Arborist.
- Tree protection hoarding shall be installed to the satisfaction of the Town of Oakville.

During Construction - Mitigation Measures

All works are to be completed under direct review of the Consulting Arborist

- Areas within the protection hoarding shall remain undisturbed for the duration of site construction and shall not be used for the storage of excavated fill, building materials, structures, or equipment.
- No cables of any type shall be wrapped around or installed in trees to be preserved. No contaminants will be dumped or flushed where feeder roots of trees exist.
- Where limbs or portions of trees require pruning to remove deadwood or accommodate construction, they will be removed by a qualified Arborist in accordance with acceptable arboriculture practice.

Post-Construction

- Following construction, the limits of the “Tree Protection Zone” shall be inspected by the Consulting Arborist. Any pruning, watering, fertilization, or replacement requirements will be determined at that time.
- Tree protection hoarding may be removed to facilitate final landscape fine grading and tree planting. This must be completed under the review of the Consulting Arborist.
- To ensure that the above measures are properly implemented, the Consulting Arborist shall be involved at the following stages of construction:

Appraisal of Town Trees

In accordance with the Town of Oakville urban forestry requirements, all trees located on Town property adjacent to the subject site were appraised to determine their value. This value is used by the Town to establish a tree preservation security.

Four trees, (Tree# 213 – 27cm DBH Black Locust, Tree# 214 – 29cm DBH Green Ash, Tree# 215 – 49cm DBH Black Locust, & Tree# 216 – 28cm Siberian Elm) are located along the municipal boulevard fronting the site. The trees were assessed using the trunk formula method as described in the Guide for Plant Appraisal, Ninth Edition, which was supplemented by the Ontario Supplement to Guide for Plant Appraisal 9th Edition Revised. The total appraised value for these two trees is $17,772.00
(*Refer to Appendix D for Appraisal Details)*

Conclusion

Strybos Barron King Ltd. was retained by Plazacorp to prepare an Arborist Report in accordance with Town of Oakville Tree Bylaw requirements for the purposes of obtaining a building permit. The report summarizes the trees inventoried within and immediately adjacent to the site and provides recommendations based on the anticipated constraints associated with the site plan construction works. Based on the Site Plan construction constraints, twenty-four (24) trees, subject to the Private Tree Bylaw, will require removal. Based on the compensation requirement guidelines for removals, one hundred one (101) new trees are required. All trees to be preserved are protected in accordance with Town of Oakville tree protection standards. (Refer to Appendix C – *Tree Protection Hoarding Detail*).

Prepared By:
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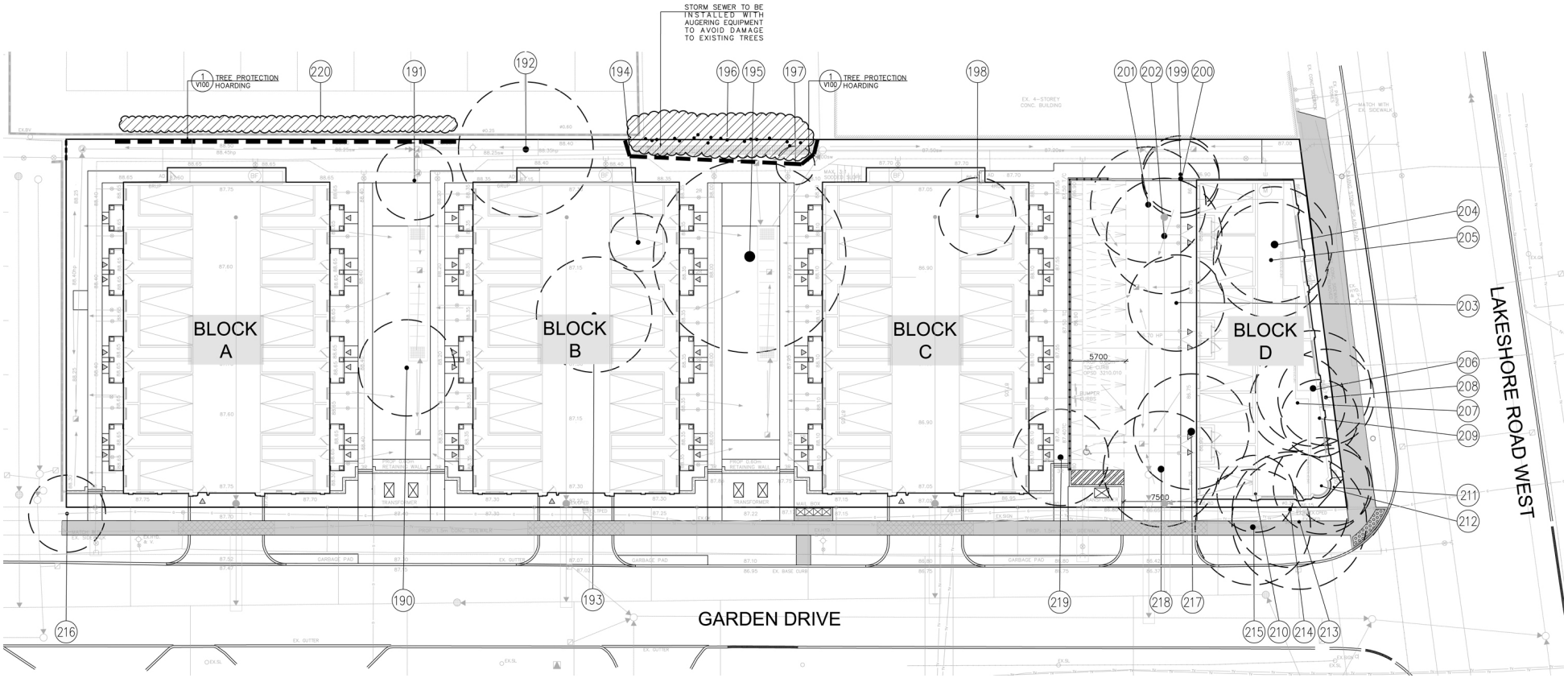
Senior Landscape Technologist

ARBORIST REPORT
Plazacorp, 109 Garden Drive, Oakville
APPENDIX A – CONTEXTUAL TREE INVENTORY & PRESERVATION PLAN *(NTS For context only. Refer to V100)*



Appendix B – SITE PHOTOGRAPHS

Trees# 190-198 (view north)

Trees 199-219 (view south)

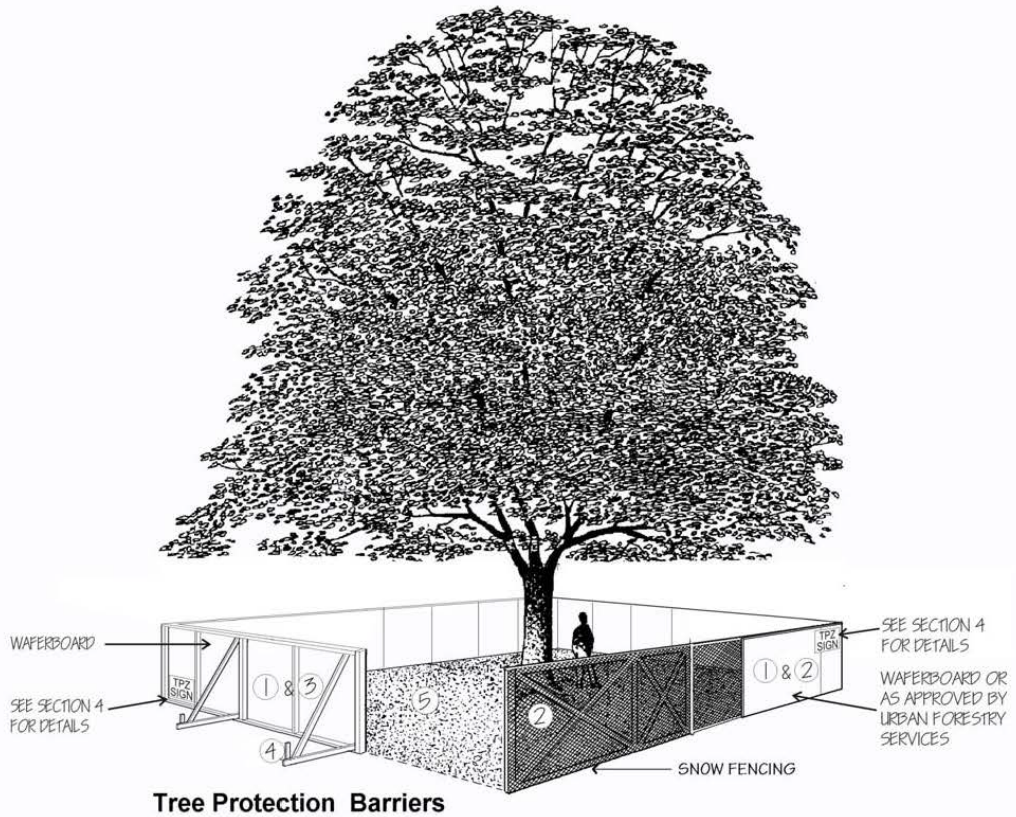
Tree# 213-219 (view north)

Tree# 204-212 (view north-east)

Appendix C – TREE PROTECTION BARRIER

OAKVILLE

SCHEDULE 1
TREE PROTECTION BARRIER



Tree Protection Barriers

PLYWOOD

1. **Tree protection barriers must be 1.2m (4ft) high, waferboard hoarding or an equivalent approved by Urban Forestry Services.**
2. **Tree protection barriers for trees situated on the Town road allowance where visibility must be maintained can be 1.2m (4ft.) high and consist of plastic web snow fencing on a wood frame made of 2"x 4"s .**
3. **Where some excavate or fill has to be temporarily located near a tree protection barrier, plywood must be used to ensure no material enters the Tree Protection Zone.**
4. **All supports and bracing should be outside the Tree Protection Zone. All such supports should minimize damaging roots outside the Tree Protection Barrier.**
5. **No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.**

ARBORIST REPORT
Plazacorp, 109 Garden Drive, Oakville

Appendix E– Municipal Street tree Appraisal

APPRAISAL FORM
TRUNK FORMULA METHOD

109 Garden Drive, Oakville
SBK Project # 6010

	Species (common name):	*Black Locust*		*Green Ash*		*Black Locust*		*Siberian Elm*	
	Key #:	*213*		*214*		*215*		*216*	
Item	Description	Unit	Value	Unit	Value	Unit	Value	Unit	Value
1	**Condition**	%	91%	%	75%	%	88%	%	72%
2	**Diameter** (cm)	DBH	27	DBH	29	DBH	49	DBH	28
3	**Location**	%	87%	%	87%	%	87%	%	39%
4	**Species Rating**	%	56%	%	72%	%	56%	%	81%
5	**Replacement Tree Size**	cm	9	cm	9	cm	9	cm	9
6	**Replacement Tree Size** (area)	cm^2	64	cm^2	64	cm^2	64	cm^2	64
7	**Replacement Tree Cost**	each	$350.00	each	$350.00	each	$350.00	each	$350.00
8	**Installation Cost**	each	$400.00	each	$400.00	each	$400.00	each	$400.00
9	**Installation Tree Cost** (Line 7+8)	each	$750.00	each	$750.00	each	$750.00	each	$750.00
10	**Unit Tree Cost**	cm^2	$11.79	cm^2	$11.79	cm^2	$11.79	cm^2	$11.79
11	**Appraised Trunk Area** (d^2X.785)	cm^2	572	cm^2	660	cm^2	1885	cm^2	615
12	**Appraised Trunk Increase** (Line 11 - 6)		509		597		1821		552
13	**Basic Tree Cost** (Line 12X10+9)	each	$6,746.56	each	$7,783.07	each	$22,220.16	each	$7,255.56
14	**Appraised Value** (Line 13X4X3X1)	each	$2,980	each	$3,642	each	$9,436	each	$1,650
	Calculation for Location								
	Site	80%		80%		80%		80%	
	Contribution	90%		90%		90%		90%	
	Placement	90%		90%		90%		90%	
	Average Location Factor	**87%**		**87%**		**87%**		**87%**	
15	**Appraised Value** Line 14 rounded up to nearest $100 if appraisal value is more than $5,000.00		**$2,980.00**		**$3,642.00**		**$9,500.00**		**$1,650.00**
	Total Appraised Value				**$17,772.00**				